HHS Public Access

Author manuscript

Workplace Health Saf. Author manuscript; available in PMC 2015 September 02.

Published in final edited form as:

Workplace Health Saf. 2014 January ; 62(1): 19–26.

Resident Aggression Toward Staff at a Center for the Developmentally Disabled

Ms. Christine A. West, RN, MSN/MPH, COHN-S [Nurse Epidemiologist], **Ms. Ellen Galloway, MA [Technical Writer/Editor]**, and **Ms. Maureen T. Niemeier, BBA [Freelance Technical Writer]**

National Institute for Occupational Safety and Health, Cincinnati, Ohio

Abstract

Few studies have examined factors contributing to nonfatal assaults to staff working in residential care facilities. The authors evaluated resident assaults toward direct care/nursing staff at an Intermediate Care Facility for Individuals with Mental Retardation (ICF/MR), which included observations of work areas, employee interviews, calculation of injury and assault rates for 2004 to 2007 from Occupational Safety and Health Administration Logs, and review of state ICF/MR guidelines. Most staff interviewed reported having been injured during physical restraint of a resident and the average rate of injury from assault at the center evaluated was higher than the average national rates for the health care and social assistance sector for the same time period. The center lacked policies for a safe workplace. The authors recommended review and maintenance of workplace violence prevention policies and developing a post-incident response and evaluation program to assist staff in coping with the consequences of assault and/or occupational injury.

Assaults on workers in health care and social service settings have been widely documented (Gerberich et al., 2004; McPhaul & Lipscomb, 2004; Myers, Kriebel, Kerasek, Punnett, & Wegman, 2005; Nachreiner, Gerberich, Ryan, & McGovern, 2007). According to the U.S. Bureau of Labor Statistics, U.S. Department of Labor (2007), 60% of all assaults that result in an injury requiring days away from work occurred in health care and social assistance settings and mainly involved patients or residents assaulting nurses or direct care staff. Few studies have examined factors related to these types of assaults in public Intermediate Care Facilities for Individuals with Mental Retardation (ICF/MR) and other related residential facilities for residents with intellectual and developmental disabilities.

The current evaluation was in response to a request for a National Institute for Occupational Safety and Health (NIOSH) Health Hazard Evaluation from the management of a state-run ICF/MR. Because of the high number of staff injuries due to resident assaults at their center, the researchers determined the extent of injuries due to assaults, identified risk factors for aggressive and violent resident behavior toward staff, and provided recommendations to decrease assaults. This evaluation consisted of observation of the work setting, interviews

Correspondence: Christine A. West, RN, MSN/MPH, COHN-S, National Institute for Occupational Safety and Health, 3135 S. Whitetree Circle, Cincinnati, OH 43236. cawest@cdc.gov.

The authors have disclosed no potential conflicts of interest, financial or otherwise.

with center staff, analyses of Occupational Safety and Health Administration (OSHA) Form 300 Logs of Work-Related Injuries and Illnesses, and review of policies relevant to the request. The staff of this center cared for residents with developmental disabilities, mental illness, or aggressive behavior and employed 251 resident care aides and nursing, medical, and therapy staff, as well as 158 administrative, housekeeping, and maintenance staff.

The largest groups of employees at the center were resident care aides, licensed practical nurses, and registered nurses. The U.S. Department of Labor defines direct care workers as nursing aides, orderlies, and attendants in any setting (institutional or residential) (Bureau of Labor Statistics, 2009). Similarly, in this evaluation, the researchers refer to resident care aides as direct care workers. Because of the nature of their work, nurses and direct care workers had the most contact with residents; they provided for residents' physical, health-related, and habilitation needs as specified in their individual program and care plans. Nursing staff and direct care workers worked one of three 8-hour shifts per day and one 8-hour overtime shift per week to provide 24-hour staffing of the center. Overtime was needed to cover understaffed shifts and supervisors assigned mandatory overtime to staff for uncovered shifts if staff did not volunteer. Typically, staff worked one 8-hour overtime shift per week.

The center's residents lived in a series of buildings split into four sex-segregated apartments. Each apartment provided common areas for residents to eat, watch television, play games, and engage in other activities. Residents also participated in activities and treatment in other buildings at the center. One building housed residents with mental and physical disabilities who required extensive care and assistance with all activities of daily living. Many of these individuals used wheelchairs and had substantial functional limitations. The other buildings included residents with mild mental retardation and/or mental illness who were able-bodied and moved freely around their apartments and the center's grounds. Admission to the center was considered only when no local resources or less restrictive residential options were available. Some residents were placed at the center because of their aggressive behavior.

METHODS

Observation of Work Setting

In each of the residential apartments, the researchers used observational methods to determine the physical risk factors related to building design (e.g., worker isolation), lighting, access to telephones or telecommunication, security and access control, and perimeter safety.

Employee Interviews

Using a staffing list of 251 direct care workers, licensed practical nurses, and registered nurses from all three shifts, the researchers selected every fifth staff member present to interview; 24 employees were interviewed. The researchers collected the following information during the interview: demographics, health history, and employment history. They focused on specific details of assaults, aggression and injury, and workplace policies regarding assaults.

Injury Log

From the OSHA Log data, the researchers calculated all nonfatal injury and illness incidence rates and compared them to national rates for nursing and residential care facilities from 2004 to 2007 (North American Industry Classification System [NAICS] code: 623). Nonfatal occupational injuries and illnesses reported for purposes of OSHA recordkeeping requirements are defined as those involving days away from work, days on job transfer or restriction, loss of consciousness, or medical treatment other than first aid (29 CFR 1904.7). Based on incident reports, management identified entries of nonfatal injuries on the OSHA Logs that were caused by assault. For some of the entries, more than one injury type was recorded. Then the incidence rate, the number of assault events per 100 full-time workers resulting in injuries, was calculated and compared to rates for the health care and social assistance sector from 2004 to 2007 (NAICS code: 62). National assault incidence rates were not available for nursing and residential care facilities. Incidence rates represent the number of injuries due to assault per person-year denominator of 200,000 hours (100 employees working 40 hours per week for 50 weeks per year) (Bureau of Labor Statistics, 2005).

Policy Review

The researchers also reviewed the state's Interpretive Guidelines for ICF/MR facilities and the center's control plan for bloodborne pathogen exposure. The center did not have written policies or procedures on workplace violence. Employee training requirements to manage inappropriate resident behavior were also reviewed.

RESULTS

Observations

Some apartments were crowded with furniture and in several rooms and hallways residents were not in clear sight of the staff when few staff were working. Loose objects could be used as weapons, but moveable furniture in the common areas could also be used to assault staff. Personal protective alarms, carried by staff to alert each other to respond during an incident, did not work in all locations inside and outside the buildings, and, at times, an insufficient number of staff responded to an incident. The researchers did not observe any other alarm systems or communication devices being used.

Employee Interviews

Twenty-one direct care workers and three nursing staff were interviewed. All reported that they had been injured by residents; 20 (83%) reported being injured while engaged in the physical restraint of a resident. Twelve (50%) reported seeing health care providers for their injuries, and 11 (46%) said they requested time off from work due to their injuries. Several staff showed the researchers lacerations and bruises from resident aggression. When asked about factors that contributed to injuries from resident aggression, 10 staff (42%) reported that inadequate staff had responded to the event; 20 staff (83%) reported that managers lacked concern about their safety and would not respond to their suggestions about how to handle resident aggression. Of the staff interviewed, 20 (83%) reported working overtime on

a regular basis, including 12 (50%) who reported working mandatory overtime. Additionally, 13 (54%) of the staff interviewed reported that they were not fully included in the residents' care and treatment plans, including providing input to the health care provider about behavior that might warrant medication changes; staff reported that changes in medication seemed to result in resident aggression. Twelve (50%) of the staff expressed a need for more comprehensive training on handling resident aggression.

Injury Logs

Table 1 presents the total number of injuries and illnesses recorded in the OSHA Log and compares incidence rates of nonfatal injuries and illnesses at this ICF/MR to national incidence rates for nursing and residential care facilities from 2004 to 2007. The number of injuries and illnesses and the incidence rates increased during this period, with a slight decrease in 2007. Nonfatal injury and illness incidence rates at the ICF/MR were approximately three times higher than national rates for nursing and residential care facilities in 2004 and 2005. In 2006 and 2007, ICF/MR rates were approximately four to five times higher than national rates.

Table 2 presents the number of reported assaults resulting in injuries, assault incidence rates for the ICF/MR evaluated, and national incidence rates in the health care and social assistance sector. More than 50% of the injuries and illnesses recorded in the OSHA Logs in Table 1 were due to resident assaults. Assault incidence rates increased over time in this center, except for a slight decrease in 2007. However, for every year from 2004 to 2007, assault incidence rates were higher than national assault rates for the nursing and social assistance sector, with the highest rate for the center occurring in 2006. Most injuries due to assault resulted in no lost work days during the 4-year period. Of those injuries that resulted in days lost due to assault, a total of 3,382 lost work days were recorded during the period.

Table 3 presents the number and types of injuries resulting from assaults between 2004 and 2007. The number of injuries due to assault ranged from 93 to 141 over the 4-year period with the highest number occurring in 2006. Overall, the most common assault injuries over the 4-year period were strains/sprains, bruises, and bites. Employees working as resident care aides were the most common job type to report injuries due to assault.

Review of Policies

Managers reported that direct care staff completed training on crisis intervention, handling agitated behaviors, and applying physical restraint during new employee orientation and annually. Participation in the Medicare/Medicaid program required ICFs/MR to comply with regulations provided in 42 CFR 483.400 for intermediate care services in facilities for those with developmental disabilities or individuals with related conditions. The review of these ICF/MR regulations demonstrated that the center did not consistently adhere to the regulations in areas such as staffing ratios, convening a human rights committee, proper use of medications to manage resident behavior, and staff training.

Researchers also reviewed the control plan for bloodborne pathogen exposure due to potential parenteral staff exposures during assaults. Evidence of both needle stick injuries and human bites was found from the OSHA Logs and employee interviews. The blood-

borne pathogen exposure plan included the basic elements of OSHA's Bloodborne Pathogen Standard, such as needle stick injuries and handling resident laundry (29 CFR 1910.1030). However, it did not include an evaluation of job categories or tasks where increased risk of infectious disease transmission from resident assaults could occur. Hepatitis B vaccination series was available to new employees.

DISCUSSION

Incidence rates of overall injury and illness and injury due to assault at this center were higher than national rates in the health care and social assistance sector. The incidence rates of injury and illness increased from 2004 to 2006 and most of the OSHA Log entries were injuries due to resident assaults. At 24.7 per 100 workers, the average rate of injury from assault at the center for 2004 to 2007 was higher than the average national rate of 0.09 per 100 workers for the health care and social assistance sector for the same time period. Most employee injuries resulted from resident assaults. The types of assaults that staff reported are typical of those documented in other social service and health care settings, such as being kicked, hit, bitten, or scratched (NIOSH, 2002a). The Department of Justice National Crime Victimization Survey Report for 1993 to 2009 reported rates of workplace violence by occupational category (Department of Justice, 2011). Of the occupational groups in health care with the highest average annual rate of workplace violence, the survey found that mental health staff experienced 2.1 assaults per 100 workers. Of the occupational groups in health care with the highest average annual rate of simple assault, the survey found that mental health staff experienced 4.3 assaults per 100 workers, and nursing staff experienced 2.2 assaults per 100 workers. At 24.7 per 100 workers, the average rate of injury from assault at the center was much higher than these rates. However, incidence rates of injuries due to assault were below rates found in a 2004 study at a state-operated ICF/MR, where the average rate of injury due to assault among direct care staff was 32.7 per 100 workers (Manning, 2005).

Limited information exists describing the extent of workplace violence against health care staff caring for residents with developmental disabilities in long-term–care facilities. Most ICF/MRs in the United States (including this center) serve a mix of developmentally disabled, mentally ill, or dually diagnosed residents. Many facilities serve residents who have no other placement option because of severe behavioral or health-related issues. Furthermore, some residents have aggressive tendencies, placing facility staff at higher risk of injury than other healthcare professionals. A survey examining the distribution of residents in several U.S. public ICF/MRs found that 80% of these facilities characterized a portion of their resident population as dangerous or aggressive and reported that this group is increasing (Manning, 2005). Working with residents with a known history of assaultive behavior has been identified as a risk factor for occupational violence toward health care workers (NIOSH, 2002a).

Individuals with mental and physical disabilities may become agitated by particular stressors including lack of privacy, minimal control over daily activities, and noise levels. They may have reduced impulse control, which may result in agitation and aggression (Myers et al., 2005; Privitera, Weisman, Cerulli, Tu, & Groman, 2005). These circumstances, as well as

inadequate security and environmental conditions such as overcrowded rooms, increase the risk of assault to staff in long-term–care settings (NIOSH, 2002a). Staff are also at risk of assault when they are physically restraining residents. Most staff reported being injured while physically restraining a resident. Research has shown that a common adverse consequence of physical restraint use is agitation of residents, and that combative residents often become more combative when restrained (Castle & Engberg, 2009; Driscoll, 1999; Lancaster, Whittington, Lane, Riley, & Meehan, 2008; Lee et al., 2003).

Direct care workers have repeated contact with residents, placing them at risk for injury due to assault, and for occupational injuries such as musculoskeletal disorders. Studies have found that violence-related injuries and musculoskeletal disorders are more common in direct care workers compared to other health care professionals (Fredriksson et al., 2002; Fuortes, Shi, Zhang, Zwerling, & Schootman, 1994; Ostry et al., 2003). Research has also shown that direct care workers have less control over their work environment, fewer opportunities to make independent decisions, and higher levels of job strain than other occupational groups (Morgan, Semchuck, Stewart, & D'Arcy, 2002; Sullivan, Kerr, & Ibrahim, 1999).

Findings from the current study are consistent with these previous findings because 83% of staff reported feeling managers lacked concern about their safety and 54% reported not being fully included in developing residents' individual program plans. In a NIOSH evaluation examining job stress in developmental center employees, staff reported that one of the most common stressors they experienced was having no supervisory support and little control over treatment decisions (NIOSH, 2002b). Organizational factors such as high job strain and low decision latitude have been associated with injuries, cardiovascular disease, and adverse mental health outcomes (NIOSH, 1999; Rodwell, Noblet, Demir, & Steane, 2009; Sanne, Mykletun, Dahl, Moen, & Tell, 2005; Schoenfisch & Lipscomb, 2009; Theorell & Karasek, 1996).

Understaffing could explain why fewer staff at the center were available to assist with resident care and respond in a crisis. Most direct care workers interviewed reported working overtime (an additional 8-hour shift) during a 1-week period, and 50% reported overtime work was mandatory to cover the center's 24-hour, 7-day work schedule. Common stressors reported in the health care setting are inadequate staffing, long work hours, and shift work (NIOSH, 2008).

Overtime work increases fatigue and stress, leading to decreased alertness and job performance (Dembe, Erickson, Delbos, & Banks, 2005; Gerberich et al., 2004; Rogers, 1997; Simpson & Severson, 2000). It also increases employees' risk of resident assault and injury, especially in cases where staff are working beyond a 12-hour day or more than 40 hours per week (Lamberg, 2004; Lipscomb, Trinkoff, Geiger-Brown, & Brady, 2002; NIOSH, 2008). Employees may be less able to react quickly to resident assault and effectively manage the situation when they are fatigued. Mandatory overtime may limit employees' abilities to plan for sleep and recuperation and arrange for child care and other family responsibilities. Overtime has been associated with increased risk of sleep problems, poor recovery from work demands, occupational burnout, work–home imbalances, and

increased reporting of physical health symptoms (Golden & Jorgensen, 2002; NIOSH, 2004; Van Der Hulst & Geurts, 2001).

Direct care staff may be more at risk for injury during the evening when other staff such as psychologists, case managers, and physicians who work traditional business hours (e.g., 8:00 a.m. to 5:00 p.m.) are unavailable. However, the researchers did not examine whether work shift was a contributing factor to injury due to assault.

Staff at the center were being assaulted in ways that could increase their risk of bloodborne pathogen transmission from bites, scratches, and other injuries that result in broken skin, but this was not addressed in the center's bloodborne pathogen exposure plan. Covered employers have an obligation as part of the OSHA Bloodborne Pathogen Standard to identify job categories and tasks that involve occupational exposures. The public record supporting this regulation shows that institutionalized developmentally disabled adults have an increased risk of hepatitis B infection (29 CFR 1910.1030). The risk that a bloodborne pathogen might be transmitted via fingernail scratches is minimal, but hepatitis B and C can be transmitted via saliva. Bites also pose a potential risk of infection from the resident to a staff person who is bitten (Lohiya, Tan-Figueroa, & Lohiya, 2001).

LIMITATIONS

The injury rates calculated from the OSHA Logs may overestimate or underestimate the extent of resident aggression toward staff. The rates include only those events severe enough to cause lost work time, require treatment beyond first aid, cause loss of consciousness, or result in restricted work duties or transfer to another job (29 CFR 1904.7). Second, the rates of less severe injuries and assaults are likely to be much higher; underreporting of injuries and assaults has been noted in other studies (Bensely et al., 1997; Erickson & Williams-Evans, 2000; Islam, Edla, Mujuru, Doyle, & Ducatman, 2003; Myers et al., 2005). Third, some overestimation of rates may also have occurred because the number of overtime hours was not reflected in the formula. Finally, a small percentage of total employees were interviewed and participation was voluntary. To reduce the potential for selection bias, the researchers selected every fifth direct care worker from the staffing list to interview; three employees refused to participate and one employee who was not part of the selection process asked to be interviewed. However, employees not present on the day and evening shifts during which the researchers conducted interviews are not represented in these results. The findings should be carefully interpreted because the injury rates and experiences of employees may not be representative of all ICF/MRs and other long-term–care settings nationally. Staff at this center may have been at higher risk of injury due to assault compared to other long-term–care settings.

IMPLICATIONS FOR PRACTICE

At the conclusion of this study, the researchers provided the center with recommendations for decreasing assaults. Consistent application of recommended actions should prevent or reduce resident assaults and create safer workplaces.

Review and maintain current policies

All levels of staff should work together to develop a proactive safety and health program, a workplace violence prevention policy, and a bloodborne pathogen policy that includes all occupational exposures that could transmit infectious disease (e.g., bites or puncture wounds). Occupational health nurses should consult state guidelines for ICF/MR facilities, as well as OSHA's Guidelines for Preventing Workplace Violence for Health Care & Social Service Workers at http://www.osha.gov/Publications/OSHA3148/osha3148.html. Recordkeeping and evaluation of any safety program is needed to determine overall effectiveness and identify any deficiencies or changes that should be made (OSHA, 2004). Finally, the policies should clearly state zero tolerance for workplace violence at the facility (42 CFR440.150-480).

Form health and safety/human rights committees

Safety committees of employees and managers should be formed to maintain and promote the above-referenced policies and ensure discussion of employee safety concerns. Additionally, human rights committees should be formed in accordance with the Interpretive Guidelines for ICF/MR to address resident aggression issues (42 CFR 440.150-480). The human rights committee should review and approve any resident programs that use restraints/physical interventions and medications to manage behavior. Furthermore, staff should be encouraged to discuss their concerns about residents' day-to-day care and aggressive behavior, as well as concerns about their own health and safety.

Assess training needs

A comprehensive training needs assessment should be conducted in light of the Interpretive Guidelines for ICF/MR and OSHA's Guidelines for Preventing Workplace Violence for Healthcare & Social Service Workers to determine training needs (42 CFR 440.150-480; OSHA, 2004). Training should be ongoing and interactive. All staff should be proficient in how to effectively respond to resident aggression.

Hire additional staff and ensure they can easily call others for assistance

A higher staff-to-resident ratio can prevent incidents of aggression. This ratio should meet all applicable requirements and exceed requirements where indicated by residents' individual program/care plans, staff and resident safety requirements, and other relevant concerns in accordance with 42 CFR 483.400-480. The conditions for facility staffing require that the staff-to-client ratio should be one to four in residential living units serving moderately disabled clients. Staff should be able to easily access alarm devices or cell phones to call for assistance whenever the risk of aggression is apparent or can be anticipated. An adequate number of trained personnel should be available to respond to incidents when an alarm is triggered or when a staff member calls for help.

Physical environment improvements

Use minimal furniture in public areas and ensure that it is lightweight, without sharp corners or edges, and affixed to the floor, if possible. Arrange furniture to prevent entrapment of staff. Remove objects in the environment that could be used as weapons such as pictures,

vases, and ashtrays. Install bright, effective lighting, both indoors and outdoors (OSHA, 2004).

Vaccinate staff

In accordance with Centers for Disease Control and Prevention (CDC) immunization recommendations (Advisory Committee on Immunization Practices for Adults and Healthcare Workers), staff should receive tetanus and hepatitis B vaccination. The CDC recommends hepatitis B vaccine for both clients and staff of institutions for the developmentally disabled. Further recommendations can be found at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6001a4.htm (CDC, 2010).

Encourage injury reporting

Staff should report assaults to their supervisors and promptly see a health care provider if injury occurs. Every incident of assault (even if the assault is unlikely to recur or minor in severity) should be reported and recorded. Assault injuries should be recorded on OSHA Logs to allow for future trend analysis and tracking of the magnitude and seriousness of resident assaults.

Develop a post-incident response and evaluation program

A post-incident response and evaluation program can assist direct care staff and others in handling psychological trauma, fear of returning to work, and other consequences of occupational assault and injury (OSHA, 2004). Examples of post-incident exposure reporting tools and policies available for employers are on OSHA's Hospital etool, under the topic, "Workplace Violence" at http://www.osha.gov/SLTC/etools/hospital/hazards/workplaceviolence/viol.html#post-incidentresponse.

CONCLUSION

Based on study data, the researchers concluded that direct care and nursing staff at this ICF/MR were at risk of injury from assault by residents. Nonfatal injury and illness rates for direct care staff and nurses at this center were much higher than national rates, and injury assault rates were higher than for other healthcare worker groups. After the conclusion of this evaluation, the researchers were notified that the center was closing. Subsequently, all residents were transferred to family members' homes, group homes, or other facilities.

Acknowledgments

The authors thank the employees and management of the facility that participated in this evaluation and field assistance provided by Gricelda Gomez.

REFERENCES

Bensely L, Nelson N, Kaufman J, Silverstein B, Kalat J, Shields JW. Injuries due to assaults on psychiatric hospital employees in Washington state. American Journal of Industrial Medicine. 1997; 31(1):92–99. [PubMed: 8986260]

Bureau of Labor Statistics. Injuries, illnesses, and fatalities. incidence rate calculator and comparison tool. United States Department of Labor; Washington, DC: 2005. Retrieved from http://www.bls.gov/help/def/iirc.htm

Bureau of Labor Statistics. Nonfatal occupational injuries and illnesses requiring days away from work. Vol. 44. United States Department of Labor; Washington, DC: 2007.

Bureau of Labor Statistics. Occupational Outlook Handbook, 2010-11 Edition. Nursing and Psychiatric Aides. United States Department of Labor; Washington, DC: 2009. Retrieved October 2012, from http://www.bls.gov/oco/ocos327.htm

Castle NG, Engberg J. The health consequences of using physical restraints in nursing homes. Medical Care. 2009; 47(11):1164–1173. [PubMed: 19786918]

Centers for Disease Control and Prevention. Updated recommendations for use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis (Tdap) vaccine from the Advisory Committee on Immunization Practices (ACIP), 2010. Morbidity and Mortality Weekly Report. 2010; 60(No. RR-01):13–15.

Code of Federal Regulations. U.S. Government Printing Office, Office of the Federal Register; Washington, DC: 29 CFR 1904.7

Code of Federal Regulations. U.S. Government Printing Office, Office of the Federal Register; Washington, DC: 29 CFR 1910.1030

Code of Federal Regulations. U.S. Government Printing Office, Office of the Federal Register; Washington, DC: 42 CFR 440.150–480

Dembe AE, Erickson JB, Delbos RG, Banks SM. The impact of overtime and long work hours on occupational injuries and illnesses: New evidence from the United States. Occupational and Environmental Medicine. 2005; 62(9):588–597. [PubMed: 16109814]

Department of Justice. National crime victimization survey, violence in the workplace, 1993–99. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics Special Report; Washington, DC: 2011.

Driscoll G. Restraints in the acute care setting. Advance for Nurses. 1999; 1(8):11–13.

Erickson L, Williams-Evans SA. Attitudes of emergency nurses regarding patient assaults. Journal of Emergency Nursing. 2000; 26(3):210–215. [PubMed: 10839847]

Fredriksson K, Alfredsson L, Ahlberg G, Josephson M, Kilbom A, Wigaeus Hjelm E, Wiktorin C, Musculoskeletal Intervention Centre. Work environment and neck and shoulder pain: The influence of exposure time: Results from a population based case-control study. Occupational and Environmental Medicine. 2002; 59(3):182–188. [PubMed: 11886949]

Fuortes LJ, Shi Y, Zhang M, Zwerling C, Schootman M. Epidemiology of back injury in university hospital nurses from review of workers' compensation records and case-control survey. Occupational Medicine. 1994; 36:1022–1026.

Gerberich SG, Church TR, McGovern PM, Hansen HE, Nachreiner NM, Geisser MS, Ryan AD, Watt GD. An epidemiological study of the magnitude and consequences of work related violence: The Minnesota Nurses' Study. Occupational and Environmental Medicine. 2004; 61(6):495–503. [PubMed: 15150388]

Golden, L.; Jorgensen, H. Time after time: Mandatory overtime in the U.S. economy. 2002. Economic Policy Institute Briefing Papers EPI Briefing Paper #120. Retrieved from http:www.epi.org/publications/entry/briefingpapers_bp120/

Islam SS, Edla SR, Mujuru P, Doyle EJ, Ducatman AM. Risk factors for physical assault: State-managed workers' compensation experience. American Journal of Preventive Medicine. 2003; 25(1):31–37. [PubMed: 12818307]

Lancaster GA, Whittington R, Lane S, Riley D, Meehan C. Does the position of restraint of disturbed psychiatric patients have an association with staff and patient injuries? Journal of Psychiatric and Mental Health Nursing. 2008; 15(4):306–312. [PubMed: 18387149]

Lamberg L. Impact of long working hours explored. Journal of the American Medical Association. 2004; 292(1):25–26. [PubMed: 15238572]

Lee S, Gray R, Gournay K, Wright S, Parr AM, Sayer J. Views of nursing staff on the use of physical restraint. Journal of Psychiatric and Mental Health Nursing. 2003; 10(4):425–430. [PubMed: 12887634]

Lipscomb JA, Trinkoff AM, Geiger-Brown J, Brady B. Work-schedule characteristics and reported musculoskeletal disorders of registered nurses. Scandinavian Journal of Work, Environment & Health. 2002; 28(6):394–401.

Lohiya G, Tan-Figueroa L, Lohiya S. Blood borne pathogen exposures in a developmental center. Infection Control and Hospital Epidemiology. 2001; 22(6):382–385. [PubMed: 11519919]

Manning, S. Injury among direct healthcare staff, an unheralded occupational safety and health crisis. Professional Safety, Journal of the American Society of Safety Engineers. 2005. Retrieved from http://www.asse.org/professionalsafety/

McPhaul KM, Lipscomb JA. Workplace violence in healthcare: Recognized but not regulated. Online Journal of Issues in Nursing. 2004; 9(3):7. [PubMed: 15482093]

Morgan DG, Semchuck KM, Stewart NJ, D'Arcy C. Job strain among rural nursing homes: A comparison of nurses, aides, and activity workers. The Journal Nursingof Nursing Administration. 2002; 32(3):152–161.

Myers D, Kriebel D, Kerasek R, Punnett L, Wegman D. Injuries and assaults in a long-term psychiatric care facility: An epidemiologic study. AAOHN Journal. 2005; 53(11):489–498. [PubMed: 16309011]

Nachreiner NM, Gerberich SG, Ryan AD, McGovern PM. Minnesota Nurses' Study: Perceptions of violence and the work environment. Industrial Health. 2007; 45(5):672–678. [PubMed: 18057810]

National Institute for Occupational Safety and Health. Stress at work. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; Cincinnati, OH: 1999. NIOSH Publication No. 99-101

National Institute for Occupational Safety and Health. Violence: Occupational hazards in hospitals. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; Cincinnati, OH: 2002a. NIOSH Publication No. 2002-101

National Institute for Occupational Safety and Health. Health Hazard Evaluation Report: Jergens Road Adult Services Center. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; Dayton, OH: 2002b. NIOSH Publication No. 2002-0218-2881

National Institute for Occupational Safety and Health. Overtime and extended work shifts: Recent findings in illnesses, injuries and health behaviors. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; Cincinnati, OH: 2004. NIOSH Publication No. 2004-143

National Institute for Occupational Safety and Health. Exposure to stress: Occupational hazards in hospitals. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; Cincinnati, OH: 2008. NIOSH Publication No. 2008-136

Occupational Safety and Health Administration. Guidelines for preventing workplace violence for healthcare & social service workers. 2004. Retrieved from http://www.osha.gov/Publications/OSHA3148/osha3148.html

Ostry AS, Yassi A, Ratner PA, Park I, Tate R, Kidd C. Work organization and patient care staff injuries: The impact of different care models for "alternate level of care" patients. American Journal of Industrial Medicine. 2003; 44(4):392–399. [PubMed: 14502767]

Privitera MR, Weisman R, Cerulli C, Tu X, Groman A. Violence toward mental health staff and safety in the work environment. Occupational Medicine (Oxford, England). 2005; 55(6):480–486.

Rodwell J, Noblet A, Demir D, Steane P. The impact of the work conditions of allied health professional on satisfaction, commitment, and psychological distress. Health Care Management Review. 2009; 34(3):273–283. [PubMed: 19625832]

Rogers B. Health hazards in nursing and healthcare: An overview. American Journal of Infection Control. 1997; 25(3):248–261. [PubMed: 9202822]

Sanne B, Mykletun A, Dahl AA, Moen BE, Tell GS. Testing the job demand-control-support model with anxiety and depression as outcomes: The Hordaland Health Study. Occupational Medicine (Oxford, England). 2005; 55(6):463–473.

Schoenfisch AL, Lipscomb HJ. Job characteristics and work organization factors associated with patient-handling injury among nursing personnel. Work. 2009; 33(1):117–128. [PubMed: 19597289]

Simpson CL, Severson RK. Risk of injury in African American hospital workers. Journal of Occupational and Environmental Medicine. 2000; 42(10):1035–1040. [PubMed: 11039167]

Sullivan T, Kerr M, Ibrahim S. Job stress in healthcare workers: Highlights from the National Population Health Survey. Hospital Quarterly. 1999; 2(4):34–40. [PubMed: 10623071]

Theorell T, Karasek RA. Current issues relating to psychosocial job strain and cardiovascular disease research. Journal of Occupational Health Psychology. 1996; 1(1):9–26. [PubMed: 9547038]

Van Der Hulst M, Geurts S. Associations between overtime and psychological health in high and low reward jobs. Work Stress. 2001; 15(3):227–240.

Applying Research to Practice

Recognizing, identifying, and addressing injury to staff who work with individuals with developmental disabilities in residential care facilities is needed. Occupational health professionals can work with facility managers to develop a comprehensive safety and health program that includes management and employee participation; hazard identification; safety and health training; and hazard prevention, control, and reporting. Facility managers should evaluate the program periodically and adhere to established policies and regulations. Further information can be found in the OSHA Guidelines for Preventing Workplace Violence for Health Care & Social Service Workers https://www.osha.gov/Publications/osha3148.pdf (OSHA, 2004).

Table 1

Number of Nonfatal Injury and Illness Cases and Incidence Rates From ICF/MR OSHA Logs for 2004–2007 Compared to National Rates

Year	*2004*	*2005*	*2006*	*2007*
Total number of injury and illness cases	131	143	204	162
Injury and illness incidence rates[a]	26	31	41	38
National injury and illness incidence rates[a,b] for nursing and residential care facilities	9.7	9.1	8.9	8.8

ICF/MR = Intermediate Care Facility for Individuals with Mental Retardation; OSHA = Occupational Safety and Health Administration

[a] *Per 100 full-time employees.*

[b] *Data from U.S. Bureau of Labor Statistics.*

Table 2

Number of Reported Assaults Resulting in Injuries and Incidence Rates From ICF/MR OSHA Logs 2004–2007 Compared to National Rates

Year	*2004*	*2005*	*2006*	*2007*
Number of reported assaults resulting in injuries[a]	85	92	140	121
Assault incidence rates[b]	17	20	32.4	29
National incidence rates[b,c] of assaults in health care and social assistance sector	0.11	0.08	0.08	0.08

ICF/MR = Intermediate Care Facility for Individuals with Mental Retardation; OSHA = Occupational Safety and Health Administration

[a] *For some of the OSHA log entries, more than one injury type due to assault was recorded.*

[b] *Per 100 full-time employees.*

[c] *Data from U.S. Bureau of Labor Statistics.*

Table 3

Number and Types of Injuries Related to Resident Assaults From ICF/MR OSHA Logs 2004–2007[a]

Year	*2004*	*2005*	*2006*	*2007*
Strains/sprains	52	30	45	38
Contusions	17	31	36	26
Bites	9	10	34	36
Head trauma/injury	5	4	4	7
Fractures	3	2	1	4
Lacerations/scratches/abrasions	2	5	8	6
Facial injuries	2	5	8	2
Other	3	6	5	5
Total	93	93	141	124

ICF/MR = Intermediate Care Facility for Individuals with Mental Retardation; OSHA = Occupational Safety and Health Administration

[a] *For some of the OSHA log entries, more than one injury type due to assault was recorded.*